

AMENDMENTS TO THE SPECIFICATION

Page 3, please amend paragraph [0008] as follows:

When either bipolar or monopolar electrosurgery is employed on the skin surface, there is a high risk of excessive thermal damage and tissue carbonisation. This is because the epidermis of the skin has a much higher electrical impedance than more vascular or ~~oist~~ moist tissues. Such thermal damage and carbonisation can lead to delayed healing, wound infection and excessive scar formation. In addition to these problems, when using bipolar arrangements, the impedance of the electrical contact between the skin and the return electrode can significantly reduce effectiveness. To overcome this problem, prior devices known in the art such as that of US patent specification 4,202,337, use multiple arrangements of bipolar pairs in blade or needle-like electrode structures which penetrate the high impedance, superficial layers of the epidermis, such that one or more of the return electrodes makes adequate electrical contact with the tissue.

Page 3, please amend paragraph [0009] as follows:

There have been a number of variations to the basic design of the bipolar probe. For example, U.S. patent specification 4,706,667 describes one of the

fundamentals of the design, namely that the ratio of the contact areas of the return electrode and of the active electrode is greater than 7:1 and smaller than 20:1 for cutting or ablation purposes. When a bipolar instrument is used in a Cavity for desiccation or coagulation, for example as described in US patent specification 5,403,311, the ratio of the contact areas of the two electrodes must be reduced to approximately 1:1 to avoid differential electrical stresses occurring at the contact between the tissue and the electrode(s).

Page 15, please amend paragraph [0059] as follows:

Referring to the drawings, Figure 1 shows electrosurgical apparatus including a generator 1 having an output socket 2 providing an RF output for an instrument in the form of a handpiece 3 via a connection cord 4. Activation of the generator 1 may be performed from the handpiece 3 via a control connection in the cord 4, or by means of a footswitch unit 5, as shown, connected separately to the rear of the generator 1 by a footswitch connection cord 6. In the illustrated embodiment, the footswitch unit 5 has two footswitches ~~Sa and Sb~~ 5a and 5b for selecting a desiccation mode and a vaporization mode of the generator I respectively. The generator front panel has push buttons 7a and 7b for respectively

setting desiccation and vaporization power levels, which are indicated in a display

8. Push buttons 9a are provided as an alternative means for selection between the desiccation and vaporization modes. The electrosurgical apparatus forms part of an electrosurgical system which can be used for vaporizing, cutting, contouring, desiccating, coagulating or otherwise thermally modifying tissue structures on the surface of or close to, the surface of a patient's body. The generator I is described in greater detail in the specification of our European patent application 96304558.8.

Page 20, please amend paragraph [0072] as follows:

The region of the graph between the points "B" and "C", therefore, represents the upper limit of the desiccation mode. The transition from point "C" to the vaporize equilibrium state will follow the power impedance curve for the RF stage of the generator I (shown as a dotted line in Figure 12). Once in the vaporization equilibrium state, the impedance rapidly increases to around 1000 ohms, with the absolute value depending on the system variables. The vapor pocket is then sustained by discharges across the vapor pocket between the active electrode 34 or 34a and the vapor/saline interface. The majority of power

dissipation occurs within this pocket, with consequent heating of the active electrode 34 or 34a. The amount of energy dissipation, and the size of the pocket, depends on the output voltage. If this is too low, the pocket will not be sustained; and, if it is too high, the electrode assembly 32 will be destroyed. It should be noted that, if power were delivered at the same level as point "C", the resulting voltages would cause electrode destruction. The normal operating point for an electrode used for vaporization is illustrated by point "D". This point is defined uniquely by the combination of the impedance power characteristic for the electrode in conjunction with the vaporize voltage limit. The dotted line E indicates the power level above which electrode destruction is inevitable. As the power is reduced, the impedance falls until, at point "A", the vapor pocket collapses ~~an~~ and the electrode assembly 32 reverts to the desiccation mode. At this point, power dissipation within the vapor pocket is insufficient to sustain it, so that direct contact between the active electrode 34 or 34a and the saline is re-established, and the impedance falls dramatically. The power density at the active electrode 34 or 34a also falls, so that the temperature of the saline falls below boiling point. The electrode assembly 32 is then in a stable desiccation mode.